REMARKS

Claims 1-29 remain in this application. Independent claims 1, 17 and 26 are amended thereby overcoming the grounds of rejection therefor and for the associated dependent claims.

To facilitate prosecution of the present application, the applicant would like to address the Examiner's Response to Arguments (which are appreciated by the applicant).

Reply to the Examiner's Response to Arguments

The applicant partially concedes the examiner's point regarding McFarland. McFarland does teach switching communication channels to interfering with a radar signal that is "present." [0021]. The claims require, however, inhibiting transmission on overlapping frequency bands. In contrast, McFarland switches communication channels to avoid interference while the claimed invention inhibits transmission on overlapping frequency bands. In [0021], McFarland states:

> *...If a radar signal is present, the access point WLAN device switches to another channel, until it finds one that is free of radar signal traffic. This allows the dynamic selection of frequencies* *__within the 5 GHz frequency space__* *to avoid interfering with radar sources. <Emphasis added>*

Thus, McFarland continues to communicate in the 5 GHz frequency band used by the radar signal but merely communicates over a channel within that frequency band that does not interfere with the radar signal. This is different from "inhibiting" transmissions within the frequency band of the radar signal as the claims require. The applicants note that transmissions are merely "inhibited" as long as the radar signal is present.

With respect to Sugar, Sugar teaches a spectrum analyzer. The official action equates the circuitry/analysis of Sugar with the circuitry and analysis of the claimed radar detection blocks. The applicant concedes that a spectrum analyzer is operable to detect signal waveforms,

frequency characteristics, etc. Thus, among other signals, a spectrum analyzer is operable to detect a radar signal and to identify characteristics of the radar signal (i.e., to analyze the radar signal as it would any other signal). Sugar, however, does not teach a circuit that is formed to detect a specific radar signal and to generate a response that is unique to the detected radar signal. If Sugar was combined with any cited reference, the system would be inoperative because Sugar does not generate a signal indicating a radar signal is present (in contrast to other signals) to inhibit transmissions.

The applicant notes that Sugar teaches, for example in relation to FIGs. 3 and 4, the "*spectrum analyzer 100 performs real-time FFT-based spectrum analysis on the DataI and DataQ signals*" (*See* col. 5, lines 36-44). Further, "*the FFT outputs M (such as 10) bits of data for each FFT frequency bin, for example, 256 bins*" (*see* col. 5, lines 61-63). An MCU "*interfaces with the SAGE 10 to receive spectrum information output by SAGE 10"* (*see* col. 3, lines 61-62). Referring back to Sugar, FIG. 4, a windowing block 100 produces windows of I and Q data to FFT block 120. The output of FFT block 120 is then produced to a power calculation block 130. Thereafter, a low pass filter receives the output of block 130. A dB conversion block 150 then receives the filter output. Block 150 then outputs the results to a memory controller that is coupled to memory interfaces (for access by the MCU as described above).

SAGE 10, therefore, is substantially more complex than, for example, what is shown in FIG. 9 of the present application. Accordingly, the signals output by Sugar are different and the associated operation (including signal flows and associated coupling) is different than what is taught and claimed herein. The radar detection logic of FIG. 9 does not include the FFT circuitry, or the low pass filtering circuitry disposed between the "power calculation circuitry" and the "dB conversion circuitry". Along these lines, the "power calculation circuitry of FIG. 9 operates on I and Q data, not an FFT of the I and Q data. The magnitude adjustment circuitry of claim 1 is

supported by dB conversion circuitry. The magnitude adjustment circuitry of claim 1 (as shown in FIG. 9) operates on the output of the "power calculation circuitry" without intermediate filtering. FIG. 4 of Sugar shows "dB conversion circuitry" similar to that of FIG. 9 that operates on the output of the low pass filter which low pass filters the power calculation of the FFT output. Thus, claim elements that specify what input is received cannot be ignored for such language suggests associated coupling which is not taught by Sugar.

Claim Rejections under 35 U.S.C. 103(a)

Claims 26-29 were rejected under 35 U.S.C. 103(a) as being unpatentable over Sugar et al. (US 6,714,605, hereinafter "Sugar") in view of McFarland et al. (US 2003/0107512 A1, hereinafter "McFarland". The action concedes that "Sugar fails to teach if a radar signal is present inhibiting transmission of outgoing communication signals from a radio transceiver" but states that this element is taught by the analogous art of McFarland.

The applicant disagrees that Sugar and McFarland can properly be combined to show the claimed elements of the present claims as presently constituted. Claim 26 requires generating a power indication of the ingoing digital signal and adjusting a magnitude of the power indication and subsequently performing radar detection analysis of pulses resulting from the adjusted magnitudes.

Sugar teaches power detection circuitry, on the other hand, that receives and operates on an FFT of an ingoing digital signal. Sugar then filters the power indications and then adjusts the magnitude of the filtered signal. The adjusted magnitudes are then output to memory for access by an MCU. This process is performed for 256 (frequency) bins.

As discussed above, McFarland does not teach inhibiting transmissions in the frequency band of a radar signal if a radar signal is detected. McFarland, in contrast, merely changes channels in the same frequency band.

Claims 1-10 were rejected under 35 U.S.C. 103(a) as being unpatentable over McGill et al. (US 5,017,921, hereinafter "McGill") in view of Sugar.

Claim 1 requires power detection circuitry that receives and operates on an ingoing digital signal. Sugar teaches power detection circuitry that receives and operates on an FFT of an ingoing digital signal. Claim 1 requires a magnitude adjustment block (supported by the dB conversion circuitry of FIG. 9) that operates on the output of the power detection circuitry while Sugar teaches dB conversion circuitry that operates on a filter output signal. While Sugar outputs signals that reflect characteristics for 256 frequency bins, the claimed invention is directed to a system that only detects signals within a radar frequency band that have defined characteristics of a radar signal. Thus, Sugar and the radar detection circuitry of the claimed invention are not equivalent notwithstanding the impressive capabilities of the Sugar spectrum analyzer.

The applicant notes that McGill is directed to a radar system, not a transceiver system for communicating with remote devices. McGill is then combined with Sugar for the rejection. As the spectrum analyzer of Sugar produces data but does not specifically search for radar signals having radar signal characteristics and does not include specific logic for inhibiting transmissions from the transceiver if a radar signal is present and as McGill is not a communication transceiver that produces communication signals as long as a radar is not detected, the applicant believes that the rejection of claims 1-10 with the combination of McGill and Sugar is overcome.

Claims 11-25 were rejected under 35 U.S.C. 103(a) as being unpatentable over McGill in view of Sugar and further in view of McFarland. As discussed above, the applicant believes that McGill and Sugar are ineffective. Further, McFarland does not provide teachings for the

elements of the claims that McGill and Sugar fail to actually teach. As argued above, Sugar is directed to a spectrum analyzer and does not include logic to specifically detect a radar signal. Granted, it can identify signal characteristics to allow a person to determine a radar signal is present, but Sugar does not actually make such a determination. Moreover, Sugar does not teach the connections and processing steps required by claim 11.

McFarland does teach identifying a radar signal (and then finding a new channel to communicate on). McFarland teaches evaluating for physical errors [0027] and when the errors hit a threshold amount, performing radar detection analysis. McFarland teaches a Fast Fourier Transform Engine [0032], a Discrete Fourier Transform [0035], and a time domain analysis [0036] to, e.g., look for well known radar signal pulse repetition patterns [0045] to determine whether a radar is present. While McFarland generally teaches determining a radar signal presence,

One aspect of the claimed invention is that the radar detection is simple to provide reliable radar identification without requiring complicated circuitry such as the Fourier analysis engines taught by McFarland and Sugar. Thus, the specific steps of grouping identified pulses based on pulse size and then evaluating the groups to determine a radar signal presence are not taught by McFarland and Sugar. The steps, for example, of removing pulses that have pulse widths that are too narrow or too wide is not taught in the cited passages of McFarland.

McFarland also does not teach measuring rise times and fall times relative to first and second thresholds as a part of identifying radar signal pulses (claim 7).

With respect to claim 11, the specific structure of the radar detection circuit is claimed and includes the multiplication circuitry, the moving average filter, the first conversion block, the threshold comparison state machine. The action conceded McGill did not teach these features. The action states, however, that Sugar teaches the required processing to identify a radar signal. As discussed, however, Sugar only determines signal characteristics for any type of signal and

does not have any specific circuitry used to specifically identify a radar signal and thus does not have any such capability to determine a radar signal has been identified. Sugar simply does not teach such circuitry. Even if Sugar were to teach a system that can be manipulated to provide a similar result, the processing elements are different. The applicant further notes that McFarland does not teach this required structure or the claimed operation.

CONCLUSION

For the above reasons, the foregoing amendment places the Application in condition for allowance. Therefore, it is respectfully requested the present claims be reconsidered and that the rejection of the claims be withdrawn and full allowance granted. Should the Examiner have any further comments or suggestions, please contact James Harrison at (214) 902-8100. If the Examiner does not find the arguments persuasive, the applicant requests a telephone conference to help expedite the prosecution of the case so that he can better understand the examiner's position.

Respectfully submitted,
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